



Space Day: Prospecting for Knowledge

1-Lunar Prospector model-building instructions

REQUIRED INGREDIENTS: both large (4 per model) and small marshmallows (3 per model); heavy (white) coverstock paper; scissors; hole punch; soda straws; two highlighter markers (one yellow and one blue); scotch tape, aluminum foil, 15-30 min of time.

NOTE: Large marshmallows = hydrazine fuel tanks, small marshmallows = science instruments, straws = spacecraft booms (masts), foil = thermal protective coating, triangle (cone) = antenna(e)

- Cut out all pieces (#1 and #2 rectangles, “tiled” larger rectangle, triangle and circle) with scissors.
- Color large rectangle **blue** (with marker) and inside triangle of circle **yellow** (with marker). Note: Students can use their imaginations, if they want. Colors are suggestions only.
- Punch holes at indicated small circles (three in large rectangle and one inside circle (fold in half and punch in middle)).
- Tape together two small rectangles, small end to small end, overlapping slightly (~1/4 in). Tape again to make a cylinder (overlapping slightly ~1/4 inch).
- Wedge three **large** marshmallows into cylinder, side-by-side and flat sides up.
- Wrap entire cylinder, with marshmallows inside, in foil. Top and bottom should be also covered. Note: This does not have to be done precisely. Students, especially younger students, can just scrunch the foil around the cylinder, making sure that the marshmallows are held in place.
- Wrap large blue rectangle around foil cylinder and tape together, forming an outer cylinder.
- Push straws into three holes in bottom of blue outside cylinder. (This is now the **bottom** of the spacecraft) Wedge one **large** marshmallow in between the three straw ends, inserting straw ends into middle of marshmallow.
- Fold triangle into a cone, and push through hole in circle. This is now the Top.
- Make 1 to 2 small rolls of tape and attach rolled over tape to underneath side of Top. Attach Top to top of bus structure (foil wrapped Marshmallows) inside top of blue cylinder (opposite side of where the straws (booms) are) -- this is now the **top** of the spacecraft.
- Attach **small** marshmallows (one each) to straws.
- Send to the Moon! (or eat the marshmallows).

